



Complete Summary

TITLE

Nursing facility chronic care: percent of eligible and willing long-stay residents who were assessed and given pneumococcal vaccination.

SOURCE(S)

Centers for Medicare & Medicaid Services. National nursing home vaccination quality measures. User's manual supplement (v1.3). Baltimore (MD): Centers for Medicare & Medicaid Services; 2006 Oct 11. various p.

Measure Domain

PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

SECONDARY MEASURE DOMAIN

Does not apply to this measure

Brief Abstract

DESCRIPTION

This measure is used to assess the percentage of eligible and willing long-stay (chronic care) nursing home residents with an up-to-date pneumococcal vaccination.

RATIONALE

The literature suggests that pneumococcal vaccination is effective in preventing serious types of pneumonia. Although there is less evidence to support the conclusion that the vaccine prevents mortality, recent population studies have shown a reduction in mortality.

A prospective cohort study assessed the effectiveness of the 23-valent polysaccharide pneumococcal vaccine (PPV) in elderly persons and persons with a high risk of infection. There were 6255 subjects that did not receive the vaccine

and 4986 subjects that received the vaccine. The results indicated that the 23-valent PPV effectively prevented pneumococcal pneumonia, decreased the rates of overall pneumonia, and resulted in a significant 59% reduction in the risk of death due to pneumonia among vaccinated subjects. A meta-analysis of 15 randomized trials and seven non-randomized trials found that polysaccharide pneumococcal vaccination of adults did not reduce mortality, but was effective in reducing invasive pneumococcal disease. Vaccination reduced invasive pneumococcal disease by 53%. A case control study of pneumococcal vaccination found a reduction in invasive pneumococcal disease among subjects receiving the vaccine. Vaccination reduced invasive pneumococcal disease in elderly subjects by 64%. A retrospective cohort study followed 47,365 elderly health plan members over a three-year period. During the study period, 1428 cohort members were hospitalized with community-acquired pneumonia, 3061 were assigned a diagnosis of outpatient pneumonia, and 61 had pneumococcal bacteremia. Receipt of the pneumococcal vaccine was associated with a significant reduction in the risk of pneumococcal bacteremia (hazard ratio, 0.56; 95% confidence interval, 0.33 to 0.93), but a slightly increased risk of hospitalization for pneumonia (hazard ratio, 1.14; 95% confidence interval, 1.02 to 1.28). The findings support the effectiveness of the pneumococcal polysaccharide vaccine for the prevention of bacteremia, but suggest that alternative strategies are needed to prevent non-bacteremic pneumonia, which is a more common manifestation of pneumococcal infection in elderly persons. Pneumococcal vaccination did not alter the risk of outpatient pneumonia (hazard ratio, 1.04; 95% confidence interval, 0.96 to 1.13) or of any case of community-acquired pneumonia, whether or not it required hospitalization (hazard ratio, 1.07; 95% confidence interval, 0.99 to 1.14).

A 1997 study by Sisk et al. that assessed the cost-effectiveness of pneumococcal vaccination for elderly people found the pneumococcal polysaccharide vaccine (PPV) was safe, cost-effective, and potentially cost-saving among persons aged 65 years or older. Among the elderly, vaccination saved \$8.27 and gained 1.21 quality-adjusted days of life per person vaccinated.

This measure is one of nineteen National Nursing Home Quality Improvement (NHQI) measures. These measures provide information to help consumers make informed decisions about their nursing home care. The measures are also intended to motivate nursing homes to improve their care and to inform discussions about quality between consumers and clinicians.

PRIMARY CLINICAL COMPONENT

Chronic care; pneumococcal vaccination

DENOMINATOR DESCRIPTION

All residents in the chronic care pneumococcal vaccination sample with a valid MDS target record (assessment or discharge) within the 6-month target period (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

NUMERATOR DESCRIPTION

Number of residents from the denominator who have an up-to-date pneumococcal vaccination within the 6-month target period as indicated on the selected MDS target record (assessment or discharge)

Evidence Supporting the Measure

EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence
- A formal consensus procedure involving experts in relevant clinical, methodological, and organizational sciences
- A systematic review of the clinical literature
- One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Use of this measure to improve performance
Variation in quality for the performance measured

EVIDENCE SUPPORTING NEED FOR THE MEASURE

Brega AG, Hittle DF, Goodrich GK, et al. Empirical review of publicly reported nursing home quality measures. Report submitted to CMS under the development, maintenance, and implementation of nursing home quality measures contract. 2007 Sep 10.

Nursing home compare. [internet]. Baltimore (MD): Centers for Medicare & Medicaid Services (CMS); 2000-[updated 2008 Jan 16]; [accessed 2007 May 22].

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Decision-making by consumers about health plan/provider choice
Internal quality improvement
National reporting

Application of Measure in its Current Use

CARE SETTING

Long-term Care Facilities

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Measure is not provider specific

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

TARGET POPULATION AGE

Patients of all ages

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

About 3 million elderly and disabled Americans received care in our nation's nearly 17,000 Medicare and Medicaid-certified nursing homes in 2001. Slightly more than half of these were long-term nursing home residents, but nearly as many had shorter stays for rehabilitation care after an acute hospitalization. About 75 percent were age 75 or older.

Vaccination rates among nursing home residents from 2005 Quarter 3 through 2006 Quarter 1 suggest that there is room for improvement in facility performance. On average, facilities vaccinate 72% of their eligible and willing chronic care residents, all of whom should have up-to-date polysaccharide pneumococcal vaccine (PPV) status. Although some facilities vaccinate 100% of their eligible and willing residents, some facilities have 0% pneumococcal vaccination rates for long-stay residents and 54% of facilities fail to meet the Healthy People 2010 objective of vaccinating at least 90% of residents. There is substantial geographic variation in vaccination rates, suggesting that the quality of pneumococcal vaccination varies significantly from state to state. Although facility-level vaccination rates in some states average 98%, in other states, the average facility-level vaccination rate is only 35%.

EVIDENCE FOR INCIDENCE/PREVALENCE

Brega AG, Hittle DF, Goodrich GK, et al. Empirical review of publicly reported nursing home quality measures. Report submitted to CMS under the development,

maintenance, and implementation of nursing home quality measures contract.
2007 Sep 10.

Nursing home quality initiative. Overview. Baltimore (MD): U.S. Department of Health and Human Services, Centers for Medicare & Medicaid Services (CMS); 2004 Jan 20. 3 p.

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

See the "Rationale" field.

UTILIZATION

Unspecified

COSTS

See the "Rationale" field.

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

All residents with a valid target assessment or discharge during the 6-month target period

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

All residents in the chronic care pneumococcal vaccination sample with a valid MDS target record (assessment or discharge) within the 6-month target period

Exclusions

Residents satisfying any of the following conditions on the selected target assessment or target discharge:

1. Resident not eligible for pneumococcal vaccination - Due to contraindications including: allergic reaction to vaccine component(s), a physician order not to immunize, or an acute febrile illness is present; however, the resident should be vaccinated after contraindications end.
2. Pneumococcal vaccination was offered but declined by the resident.

Note: Residents are not excluded if either or both of the pneumococcal vaccination items have dash (-) values, indicating inability to determine.

Refer to the original measure documentation for details.

RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

DENOMINATOR (INDEX) EVENT

Diagnostic Evaluation
Institutionalization

DENOMINATOR TIME WINDOW

Time window is a fixed period of time

NUMERATOR INCLUSIONS/EXCLUSIONS**Inclusions**

Number of residents from the denominator who have an up-to-date pneumococcal vaccination within the 6-month target period as indicated on the selected MDS target record (assessment or discharge)

Exclusions

Unspecified

MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

NUMERATOR TIME WINDOW

Fixed time period

DATA SOURCE

Special or unique data

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

CMS Minimum Data Set - Resident Assessment Instrument (Version 2.0)

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

External comparison at a point in time
Internal time comparison

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

The quality measure is based on the best research currently available. This quality measure meets four criteria:

- it is important to consumers,
- is accurate (reliable and valid),
- can be used to show ways in which facilities are different from one another, and
- can be influenced by the provision of high quality care by nursing home staff.

EVIDENCE FOR RELIABILITY/VALIDITY TESTING

Brega AG, Hittle DF, Goodrich GK, et al. Empirical review of publicly reported nursing home quality measures. Report submitted to CMS under the development, maintenance, and implementation of nursing home quality measures contract. 2007 Sep 10.

Identifying Information

ORIGINAL TITLE

Percent of eligible and willing residents with an up-to-date pneumococcal vaccination.

MEASURE COLLECTION

[Nursing Home Quality Initiative: National Nursing Home Quality Measures](#)

MEASURE SET NAME

[Chronic Care Quality Measures](#)

DEVELOPER

Centers for Medicare & Medicaid Services

FUNDING SOURCE(S)

United States (U.S.) Government

COMPOSITION OF THE GROUP THAT DEVELOPED THE MEASURE

United States (U.S.) Government Staff, Clinical Experts, Researchers, and Statisticians

FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST

No conflicts of interest exist.

INCLUDED IN

Nursing Home Compare

ADAPTATION

Measure was adapted from another source.

PARENT MEASURE

Influenza vaccination for all nursing home residents and Pneumococcal polysaccharide vaccination of residents age 65 or older (Centers for Disease Control and Prevention [CDC])

RELEASE DATE

2006 Oct

MEASURE STATUS

This is the current release of the measure.

SOURCE(S)

Centers for Medicare & Medicaid Services. National nursing home vaccination quality measures. User's manual supplement (v1.3). Baltimore (MD): Centers for Medicare & Medicaid Services; 2006 Oct 11. various p.

MEASURE AVAILABILITY

The individual measure, "Percent of eligible and willing residents with an up-to-date pneumococcal vaccination," is published in "National Nursing Home Vaccination Quality Measures. User's Manual Supplement." This document is available in Portable Document Format (PDF) from the [Centers for Medicare & Medicaid Services \(CMS\) Web site](#).

For more information, refer to the CMS Web site at, www.cms.hhs.gov.

COMPANION DOCUMENTS

The following is available:

- Nursing Home Compare. [internet]. Baltimore (MD): Centers for Medicare & Medicaid Services. 2000- [updated 2008 Jan 16]; [cited 2008 May 22]. This tool is available from the [Medicare Web site](#). See the related [QualityTools](#) summary.

NQMC STATUS

This NQMC summary was completed by ECRI Institute on December 11, 2007. The information was verified by the Colorado Foundation for Medical Care, under contract with CMS on December 11, 2007.

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